

Low-Power Ultra-Wideband Radio and Radar Chip, Phase I

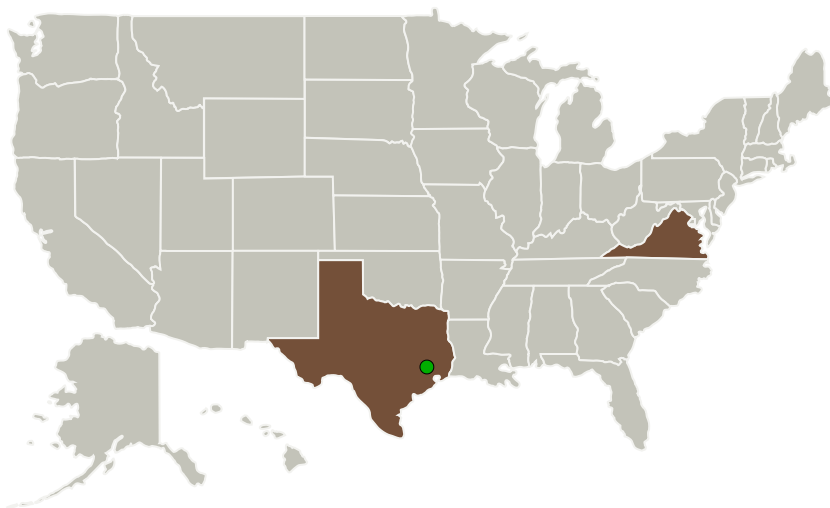
Completed Technology Project (2010 - 2010)



Project Introduction

Prime Research LC (PRLC), Virginia Tech (VT), and the University of Texas at Arlington (UTA) propose to develop an ultra-low power radio/radar based on a CMOS ultra-wideband impulse radar (UWIR). The system will be highly compact, consume very little power, perform accurate ranging and asset tracking capability, and provide high capacity communications. Combined with PRLC's power harvesting technologies, the PRLC/VT/UTA team will deliver a high quality and robust product for space applications.

Primary U.S. Work Locations and Key Partners



Low-Power Ultra-Wideband
Radio and Radar Chip, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

Organizations Performing Work	Role	Type	Location
Prime Photonics, LC	Lead Organization	Industry	Blacksburg, Virginia
● Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas

Primary U.S. Work Locations


Texas	Virginia
-------	----------


Low-Power Ultra-Wideband Radio and Radar Chip, Phase I

Completed Technology Project (2010 - 2010)



Project Transitions

 **January 2010:** Project Start

 **July 2010:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139190>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Prime Photonics, LC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

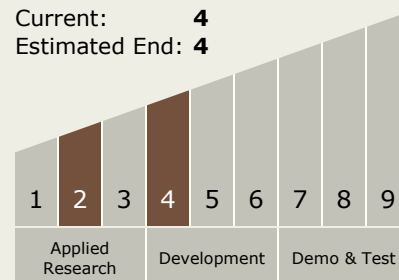
Carlos Torrez

Principal Investigator:

Raymond Rumpf

Technology Maturity (TRL)

Start: 2
Current: 4
Estimated End: 4



Low-Power Ultra-Wideband Radio and Radar Chip, Phase I

Completed Technology Project (2010 - 2010)



Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
 - └ TX05.2 Radio Frequency
 - └ TX05.2.4 Flight and Ground Systems

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System